

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COÖPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number  
**WO 2005/076543 A1**

(51) International Patent Classification<sup>7</sup>: **H04L 12/56**,  
12/28

(21) International Application Number:  
PCT/IB2005/050441

(22) International Filing Date: 2 February 2005 (02.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/542,530 6 February 2004 (06.02.2004) US  
60/581,581 21 June 2004 (21.06.2004) US

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS, N.V.** [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DEL PRADO PAVON, Javier** [ES/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US). **SOOMRO, Amjad** [US/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US). **NANDAGOPALAN, Saishankar** [IN/US]; P.O. Box

3001, Briarcliff Manor, NY 10510-8001 (US). **ZHONG, Zhun** [CN/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US). **CHALLAPALI, Kiran, S.** [IN/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US). **HABETHA, Joerg** [DE/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US). **HIERTZ, Guido** [DE/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).

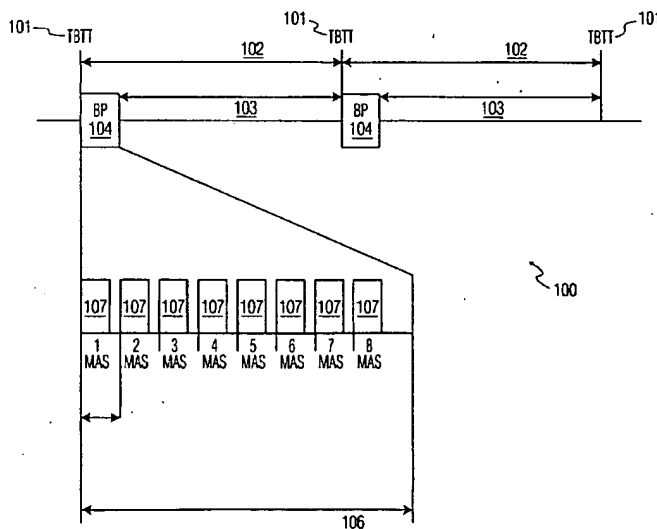
(74) Common Representative: **KONINKLIJKE PHILIPS ELECTRONICS, N.V.**; c/o WAXLER, Aaron, P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: BEACONING PROTOCOL FOR AD-HOC NETWORKS



(57) Abstract: A distributed MAC protocol is provided that includes a superframe (102) having a slotted Beaoning Period (104) and a data transfer period (103). The provided superframe (102) comprises a plurality of medium access slots (107) and a plurality of medium access slots (107) is assigned to the slotted Beaoning Period (104). The Beaoning Period length (106) may be fixed or variable. The provided Beaoning protocol defines initializing an ad hoc network by means of starting (101) a Beaoning Period (104), joining an existing Beaoning Period (104) of ad hoc network and resolving collisions during the Beaoning Period.

WO 2005/076543 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM,

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.